

SCIENTIFIC NOTE¹

TABANIDAE (DIPTERA) ATTRACTED TO ARTIFICIAL LIGHTS IN CALIFORNIA

During July and August last summer, three specimens (two males, one female) of the rather primitive horse fly, *Pilimas abaureus* (Philip), and a single male of *Hybomitra californica* (Marten) were collected in a black light trap by Williams 2.5 miles south of West Point in Calaveras County. These records constitute the third and fourth tabanid species from California (out of the 73 species) that have been collected at artificial lights (the first in black light flight traps), and the first records of these species from Calaveras County. *Pilimas californica* (Bigot) and *Apatolestes parkeri* (Philip) have also been taken while attracted to lights in the state (Middlekauff and Lane, 1980, Bull. Calif. Insect Surv., 22:1-99). The significance of this phenomenon among habitually day-flying tabanids is not understood, but either attraction of these flies while resting on nearby vegetation or that their flight patterns may include crepuscular or nocturnal habits is suggested.

None of the aforementioned tabanids has been captured from, or observed feeding on, vertebrates, but *H. californica* has been taken in CO₂-baited insect flight traps in Mendocino County (Middlekauff and Lane, 1980). The latter finding suggests that *H. californica* is hematophagous, whereas *P. abaureus* and *P. californica*, both of which have been swept from flowers, as well as *A. parkeri*, may be autogenous, i.e., capable of producing eggs without an ovigenous blood meal.

Larvae and pupae of *H. californica* were described by Lane (1979, J. Med. Entomol., 16:142-149), who collected larvae from soil and mosses bordering a woodland vernal pool. The immatures of none of the three known *Pilimas* species has been described; therefore it is hoped that the black light trap site may furnish a clue for discovering the larval habitat of *P. abaureus* next season. Very little is known about the biologies of immature (or adult) *Pilimas* or other indigenous members of the generalized subfamily Pangoniinae (*Apatolestes*, *Brennania*, *Stonemyia*). For instance, larvae and pupae of only two of 16 pangoniines from California have been found, namely, *Brennania hera* (Osten Sacken) and *Apatolestes actites* Philip and Steffan (Middlekauff and Lane, 1980). Detailed descriptions of the immatures of these two species will be presented in a forthcoming report (Lane and Philip, in prep.). Both species were found in terricolous habitats along the coast where availability of potential vertebrate host blood is minimal.

The two males and lone female of *P. abaureus* are passed among the audience for comparison with two males of the related *P. californica*, which was the subject of an earlier meeting note by Philip (1978, Pan-Pac. Entomol., 54:74). The latter males were taken (and photographed) while hovering

(probable mating postures!) at the tops of 300-foot high giant sequoia trees. The identities of both sexes of *P. abaureus* were confirmed by Dr. Robert S. Lane of the University of California, Berkeley, who also determined the male of *H. californica*. The hind tibial fringes of the last are entirely black in contrast to the usual reddish fringes in the females.

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¹ This note was submitted for publication in the Proceedings of the 406th meeting of the Pacific Coast Entomological Society, 20 February 1981.—Ed.

CORRECTION, page 8, line 13

Before the turn of the century T. D. A. Cockerell was on the staff of the New Mexico College of Agriculture and Mechanic Arts, Las Cruces (as second Professor of Entomology and Entomologist of the Agricultural Experiment Station). Professor Cockerell was never employed by the University of New Mexico. We thank Professor J. G. Watts of New Mexico State University, Las Cruces, for calling this correction to our attention.—Editor.